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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/553,205   | 10/13/2005  | Ichiro Ono           | 5521-0118PUS1       | 1261             |
| 2292 7590 06/24/2010<br>BIRCH STEWART KOLASCH & BIRCH<br>PO BOX 747<br>FALLS CHURCH, VA 22040-0747 |             |                      |                     |                  |
| EXAMINER   |             |                      |                     |                  |
| RIDER, LANCE W   |             |                      |                     |                  |
| ART UNIT   |             | PAPER NUMBER         |                     |                  |
| 1618   |             |                      |                     |                  |
| NOTIFICATION DATE  |             | DELIVERY MODE        |                     |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/553,205

**Applicant(s)**

ONO ET AL

**Examiner**

LANCE RIDER

**Art Unit**

1618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 7-26 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/GA-68)  
Paper No(s)/Mail Date See Continuation Sheet
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :10/13/2005, 1/20/2006, and 8/09/2006.

## **DETAILED ACTION**

### ***Status of Claims***

Claims 1-28 are currently pending, claims 7-26 and 28 have been withdrawn due to the election requirement filed on August 21<sup>st</sup> 2009.

### ***Election/Restrictions***

Applicant's election with traverse of Group I, claims 1-6 and 27, and the species of example 1, the species of KF-8005, KF-9013, glycerol, sodium polyacrylate, stearyl trimethyl ammonium chloride, and the addition product of methylhydrogenpolysiloxane and an alkenyl- methylhydrogenpolysiloxane in the reply filed on February 16<sup>th</sup> 2010 is acknowledged. The traversal is on the ground(s) that there is no burden to search the other groups as they all depend upon claim 1. This is not found persuasive because the combination does not require the particular subcombinations and the subcombinations with the various different components have separate utility such as in commodity plastics, oil and water repellant sprays, cosmetics, etc., requiring further search for each. Furthermore, inventions II-X as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants, and invention X is a process of use which could be practiced with a myriad of different products such as those of inventions I-X.

The requirement is still deemed proper and is therefore made FINAL.

***Information Disclosure Statement***

The Information Disclosure Statements (IDS)s, filed by applicant on October 13<sup>th</sup> 2005, January 20<sup>th</sup> 2006, and August 9<sup>th</sup> 2006 have been considered by the examiner in the present case.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**The following 102(b) rejections are based upon art which was found incidental to the search for the elected species. The search was not expanded beyond the elected species (specifically the copolymer of a methacrylate D3/polysiloxane graft monomer, methyl methacrylate, streayl methacrylate, and methacryloxypropyl-trimethoxysilane), the following art is being applied in an effort to promote compact prosecution of the case.**

**Claims 1-4, 6, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Garbe et al., United States Patent 5,021,477.**

Garbe discloses hair treatments comprising acryl/silicone copolymers having an acrylate backbone, hydrolysable silyl groups, and repeating units comprised of methacrylates, siloxanes, and alkyl linkers, meeting the limitations of instant claims 1-4. (See claims 1-15.) Garbe discloses that the polymers are made from methacryloxypropyl-terminated polymethylsiloxane macromonomers and a methacrylate backbone with copolymer weights of 5,000 to 25,000. The hair treatments are present

as a solution (which reads on a liquid) and contain medically active or cosmetically active ingredients. meeting the limitations of instant claims 1, 6, and 27. (See claim 1.)

**Claims 1-4, 6, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Morita et al., United States Patent 6,280,748.**

Morita discloses hair treatments comprising acryl/silicone copolymers having an acrylate backbone, hydrolysable silyl groups, and repeating units comprised of methacrylates, siloxanes, and alkyl linkers, meeting the limitations of instant claims 1-4. (See claims 1-2.) Morita discloses that the hair treatments can contain water and be in a liquid spray form, meeting the limitations of instant claims 1, 6, and 27. (See claim 1 and example 14.)

**Claims 1-6 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Morita et al., United States Patent 6,238,745.**

Morita discloses spray formulated water repellants containing an acrylate/silicone copolymer and an organic solvent (such as ethanol), which reads on a liquid, meeting the limitations of instant claims 1 and 27. (See claim 1 and column 11, lines 54-55.) Morita discloses that these water repellants sprays can be used hair and wool, meeting the limitations of a hair treatment, and the limitations of instant claims 1 and 6. (See column 12, line 24.) Morita discloses that the acrylate/silicone copolymers have a preferable molecular weight of 10,000 to 100,000. The question of whether this range is taught by the prior art with "sufficient specificity" is similar to that of "clearly envisaging"

a species from a generic teaching. In the instant case the prior art teaches a range of 5,000 to 1,000,000 covering applicant's claimed range, and states that the most preferable range is 10,000 to 100,000, the exact center of applicant's range. Thus the prior art teaches a range that discloses the instantly claimed 5,000 to 200,000 MW range with enough specificity to anticipate this range, meeting the limitation of instant claim 5. (See column 11, line 11.)

**Claims 1, 3, 4, 6, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Karlen et al., United States Patent 6,042,819.**

Morita discloses hair treatments comprising acryl/silicone copolymers having hydrolysable silyl groups, and repeating units comprised of methacrylates, siloxanes, and alkyl linkers, meeting the limitations of instant claims 1, 3, and 4. (See claims 1-12.) Morita discloses that the hair treatments can contain organic solvents (isopropanol) and be in a liquid spray form, meeting the limitations of instant claims 1, 6, and 27. (See examples 1-13.) Karlen also discloses that the backbone monomers can be selected from methyl methacrylate, stearyl methacrylate, and methacryloxypropyl trimethoxysilane. (See column 2, lines 25-37.)

**Claims 1, 3, 4, 6, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Karlen et al., United States Patent 6,004,545.**

Morita discloses hair treatments comprising acryl/silicone copolymers having hydrolysable silyl groups, and repeating units comprised of methacrylates, siloxanes,

and alkyl linkers, meeting the limitations of instant claims 1, 3, and 4. (See claims 1-6.) Morita discloses that the hair treatments can contain organic solvents (isopropanol) and be in a liquid spray form, meeting the limitations of instant claims 1, 6, and 27. (See examples 1-17.) Karlen also discloses that the backbone monomers can be selected from methyl methacrylate, stearyl methacrylate, and methacryloxypropyl trimethoxysilane. (See column 2, lines 60-67 and column 3, line 1.)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation



under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1-6 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita et al., United States Patent 6,238,745.**

Morita discloses spray formulated water repellants containing an acrylate/silicone copolymer as discussed above. In the event that applicant asserts that the disclosure of Morita does not anticipate the instantly claimed size range of 5,000 to 200,000 for the copolymers, the teachings of Morita at the very least render obvious the instantly claimed range as the ranges taught by Morita and those instantly claimed overlap. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Morita also teaches that the silicone copolymers can be methacrylate terminated polysiloxanes. (See claims 1-12 and example 3.) Morita also teaches that there are no particular limitations on the methacrylate/vinyl monomer backbone. (See column 3, lines 66-67.) Further Morita teaches that the backbone monomers can be selected from methyl methacrylate, stearyl methacrylate, and methacryloxypropyl trimethoxysilane. (See column 4, lines 1-29.)

Morita does not teach the elected species of a specific mixture of methyl methacrylate, stearyl methacrylate, methacryloxypropyl trimethoxysilane, and methyl methacrylate terminated polymethylsiloxane recited in example 1. (Page 27 of the instant specification.)

There are a number of reasons it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to combine methyl methacrylate, stearyl methacrylate, methacryloxypropyl trimethoxysilane, and methyl methacrylate terminated polymethylsiloxane together to form a hair treatment polymer. First, the skilled artisan, given the express teaching of Morita that any vinylic monomers can be used to make acrylate/siloxane copolymers useful for hair treatments, would have merely had to select any combination of the monomers taught by Morita to arrive at an acrylate/silicone copolymer useful in hair treatment. This is merely choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success, to arrive at a similar hair treatment copolymer. Second, the skilled artisan, knowing all of the monomers were known to be useful in forming acrylate/siloxane copolymers for hair treatments, would have been motivated to combine known graft copolymers together to form a similar hair treatment copolymer. "It is *prima facie* obvious to combine compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). The skilled artisan would have predicted that this combination would function to form a hair

treatment polymer as Morita expressly states they will function for that purpose, and the prior art polymers and those instantly claimed have the same structure and function.

"[W]here, as here, the patent at issue claims a chemical compound, the analysis of the third Graham factor (the differences between the claimed invention and the prior art) often turns on the structural similarities and differences between the claimed compound and the prior art." *Eisai Co. Ltd. v. Dr. Reddy's Labs., Ltd.*, 533 F.3d 1353, 1356-57 (Fed. Cir. 2008). In the instant case both the prior art and the claimed invention are drawn to acrylate/siloxane copolymers with similar structures. Further, both the prior art and the instant claims are drawn to identical uses of such polymers. As such it would have been obvious to use known prior art polymers for their art recognized purpose.

**Claims 1-6 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Morita et al., United States Patent 6,280,748.**

Morita discloses spray formulated water repellants containing an acrylate/silicone copolymer as discussed above. Morita also teaches that the carbosilane dendrimer should have a preferable molecular weight of from 5,000 to 800,000. (See column 10, line 64.) The ranges taught by Morita and those instantly claimed overlap rendering the instant claims obvious. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). Morita teaches that the silicone copolymers can be methacrylate terminated polysiloxanes. (See claims 1-2 and example 1.) Morita also

teaches that there are no particular limitations on the methacrylate/vinyl monomer backbone. (See column 3, lines 66-67.) Further Morita teaches that the backbone monomers can be selected from methyl methacrylate, stearyl methacrylate, and methacryloxypropyl trimethoxysilane. (See column 4, lines 1-29.)

There are a number of reasons it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to combine methyl methacrylate, stearyl methacrylate, methacryloxypropyl trimethoxysilane, and methyl methacrylate terminated polymethylsiloxane together to form a hair treatment polymer. First, the skilled artisan, given the express teaching of Morita that any vinylic monomers can be used to make acrylate/siloxane copolymers useful for hair treatments, would have merely had to select any combination of the monomers taught by Morita to arrive at an acrylate/silicone copolymer useful in hair treatment. This is merely choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success, to arrive at a similar hair treatment copolymer. Second, the skilled artisan, knowing all of the monomers were known to be useful in forming acrylate/siloxane copolymers for hair treatments, would have been motivated to combine known graft copolymers together to form a similar hair treatment copolymer. "It is *prima facie* obvious to combine compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). The skilled artisan would have predicted that this combination would function to form a hair

treatment polymer as Morita expressly states they will function for that purpose, and the prior art polymers and those instantly claimed have the same structure and function. "[W]here, as here, the patent at issue claims a chemical compound, the analysis of the third Graham factor (the differences between the claimed invention and the prior art) often turns on the structural similarities and differences between the claimed compound and the prior art." *Eisai Co. Ltd. v. Dr. Reddy's Labs., Ltd.*, 533 F.3d 1353, 1356-57 (Fed. Cir. 2008). In the instant case both the prior art and the claimed invention are drawn to acrylate/siloxane copolymers with similar structures. Further, both the prior art and the instant claims are drawn to identical uses of such polymers. As such it would have been obvious to use known prior art polymers for their art recognized purpose.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-6 and 27 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-31 of U.S. Patent No. 7,722,899. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the prior claims and the instant claims are drawn to hair spray compositions in the form of liquids creams, etc., comprising acrylate/polysiloxane copolymers made of the same monomer units, and having a molecular weight of from 5,000 to 200,000 Da.

### ***Conclusion***

No claims are currently allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LANCE RIDER whose telephone number is (571)270-1337. The examiner can normally be reached on M-F 11-12 and 1-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Hartley can be reached on (571)272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LANCE RIDER/  
Examiner, Art Unit 1618

/Jake M. Vu/  
Primary Examiner, Art Unit 1618